# JULY 25, 1949 A MCGRAW-HILL PUBLICATION WEEK

# MY DUNNELL Lirera

# Safe, Sure Stopping Power

for the Air Force XF-88

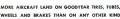
This speedy, swept-back wing McDonnell XF-88 "penetration" fighter depends upon Goodyear Single Disc Brakes for safe, sure stopping power. For this light, compact, dependable aircraft brake is "tops" in energy absorption for its size and weight. It's self-sadjusting — quick-cooling — permits sim-

ple, visual inspection—takes only a few minutes to reline. For complete information about this and all other famous Goodyear Aviation Products, write: Goodyear,

Aviation Products Division, Akron 16, Ohio or Los Angeles 54, California.



GOOD YEAR
AVIATION
PRODUCTS







"Tin Goose"

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Modern Luxury



20 years ago, Terms-World Airlines insuranted their first Transcontinegted sir passenger service with trimotor, all metal planes. Known today as "The Old Tip Goose", such sigcomfort and safety. Their operation depended on some 169 anti-friction

Today most aidliners travel TWA's wale flame mates at much exenter spends and infinitely arester comforts Indeed the tremendous advance in speed, safety and reliability is indifriction bearings, these modern are lipen employing about twelve times as many, or over 2,000 hall bearings

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Nothing Rolle Like a Ball

NEW DEPARTURE BALL BEARINGS



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# AVIATION

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AVIATION WELL July 21, 1901



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# AIRLINES ... pacemakers in travel progress



# THE AVIATION WEEK

# More Lessons From the Airlift—An Analysis

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# "Sealed Ignition" Units For Rocket Ram Jet And Small Turbo-Jet Engines



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# AVIATION CALENDAR

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IS YOUR PROTECTION PAPER MANUFACTURERS



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# Torrington Needle Bearings reduce deadweight in Martin airplanes









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# TORRINGTON NEEDLE BEARINGS

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INDUSTRY OBSERVER

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ting P&W screen of the Period Rofo-Royce Nove Boboh Note is now restalled experimentally to several British community transports 5-33-A22 rated at 4000 lb throat. The P&W venton of the Neve (1-42)

\* McDonnell Accord Corp. courses no restroy two redest more

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Dy Robert B Hete





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# Air Safety Board

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# USAF Funds Cut

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Congress Approves Record CAA Budget

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### USAF Forms Tactical Air Force Thunderjets assigned for support of ground forces, and Army and AF study use of other plane types.

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# Cross-Country Tips

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GARGUNY











# AERONAUTICAL ENGINEERING



# How P2V Meets Patrol Objectives

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AVERTICAL WEEK, July 15, 1949.

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BENDIX-SCINTILLA

IGNITION EQUIPMENT for Record-Breaking Performance

HE history of eviation has been highlighted by a never ending series of outstanding accomplishments. Whenever a plane thes faster, further, or more safely than ever before, its record-breaking performance is accepted only as a challenge to even-greater achievement. The words "status

quo" have never been part of aviation's nomenclature. Boudix-Scintilla has, over the quart, kept pace with axiation's progress by specting both today's demands and tomorrow's requirements for the finest in ignition equipment. That's who from the industry's earlient days, Bendix-Svintills (quition equipment has played a part in almost every record-dreshing accomplishment.

Bendix-Scintilla Helos Set New Endurance Record Over LODS hours alich-more distance than there









military and civiline planes.

More than ten years of speculated expenses is year assumes oil leadeshap in expensions and an operating afficiency.



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When you've glad you have a Installing Rocker Bar

Mechanics say. "It's Easy-Going with genuine

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AVAILABLE WEEK July 25 1945

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Whittaker MOTOR SLIDE VALVES...



DESIGNED TO WORK Together

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# A Lift and a Light for Berlin

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# what TWA likes about **FDISON FIRE DETECTION**

"... williams of miles without a

single false engine fire warning.





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Decornon Section. It is also probably an important resonn why it has been approved by the U.S. Air Force for all recipro-







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New Aerograph for More Adequate Data

# ENGINEERING FORUM Jet Fighters Held Match for B-36

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HYDRAULICALLY - FORMED BELLOWS







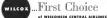












WIS completely equips all ground stations and aircraft with witcox radio VAR ALE-RORNE COMMUNICATIONS

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WILCOX ELECTRIC COMPANY

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# PRODUCTION

# Progress Report Airframe Weight-All Types (In thousands of possibl)

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By number of sinces Civil Aircraft-Value

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# 1949 sieframa weicht

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# Behind the Scenes

# at Hamilton Standard

# Several months see, we discussed on these pages one particular problem in the design and development of modern propeller blades - fatigue. It was a story of cest, test and more test. Here, we would like to tell you a little of the

creative design work that goes on behind the scenes at Hamilton Standard. This work is quite different than testion, for we are not in the laboratories surrounded by complicated and intriguing machinery. We are at a desk with nothing more than a slide rule, pencils, formulas and charts. Our objective is the arradynamic design of efficient propellers and the selection of the most suitable design for a given airplane installation. The "tool" used in achieving

this objective is called "strip analysis". Refinements in propeller blade design were of secondary importance in the must. Today, they have assumed major importance because of higher speeds, greater engine powers and increased loads. Now, even small improvements in propeller performance can produce large economic benefits to operators of modern aircraft. For example, in the case of an airplane whose take-off and climb performance is critical with a given load, a propulsive efficiency improvement of as little as 1% or 2% can increase the maximum permissible

navioud from 1955 to as much as 50%. In the past, propeller designs were based on data gathered from wind monel and flight tests. This was costly and time-consuming and rarely resulted in a design of maximum efficiency. Now, since small performance changes have come to mean so much, propeller designers must try to work to the last fraction of a percent in propeller efficiency. As a result, this new strip analysis method has been developed and refined by Hamilton Standard engineers to a point where the comparative accuracy is within plus or minus one-half of one percent. Such continuous design leadership and thorough research have con-

tributed much to the progress of aviation. On the apposite near are assertions and asserts which will give you some idea of this one phase in our interesting but complex work of designing, developing and producing Hamilton Standard propellers.

# THE PART OF THE PARTY SECTION



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# SALES & SERVICE





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HOSE ASSEMBLIES A. J. MOORE CO Plan Kalan FSR KYNTHON WHIRE July 25, 1945 SEARCHLIGHT SECTION @

# Hail and Farewell!

A FINAL REPORT on the Steward-Davis R-1830-92 Conversion:

The last Steward-Davis 100-Hour warranted B-1830-92 Conversion was produced by this company on May 15th, 1949.

The primary reason for discontinuing the production of such conversions is that the surplus merket supply of zero-time R-1830-65 or 46 roganes in condition to permit safe and expressed conproving it to limited that Stoward Davis complete it no leaster practical to continue offernat con-

However, we anserted with pleasure that the second, and the conclusive trason, for the armoval of conversions from our sales has is that we are now able to offer the Steward-Davis 600-Hour suggested Commercial Overhand to our ensurement at \$1565 on one year contract." At this price we do not feel that the Steward-Davis 160-hour warranted Conversion could compete with its

successor, regardless of any changes in surplus supply. We wish to extend our mateful thanks to all of the many customers who murchosed and flow the Steward Davis R-1830-R2 Conversion, and whose conversion made the following service record

Conversions renduced: 349 Percent of engines suffering difficulties within 100 hour warranted project 1 ave.

Precent of enemes suffering major failures less then 1%.

Total of all difficulties proorted: 11

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# R 1830-92 CONVERSION

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AVIATION WEEK, July 25, 1949

# **LETTERS**

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